



# Santa Clara Valley Water District

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**File No.:** 19-0835

**Agenda Date:** 5/14/2019

**Item No.:**

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## BOARD AGENDA MEMORANDUM

### **SUBJECT:**

Amendment No. 2 to Agreement No. A3941A with GEI Consultants, Inc., for Design Consultant Services for the Guadalupe Dam Seismic Retrofit Project, Project No. 91894002 (San Jose) (District 7).

### **RECOMMENDATION:**

Approve Amendment No. 2 to Agreement No. A3941A with GEI Consultants Inc., for design consultant services for the Guadalupe Dam Seismic Retrofit Project, increasing the not-to-exceed compensation limit by \$1,474,569 resulting in a revised total not-to-exceed amount of \$7,375,787, and extend the Agreement term.

### **SUMMARY:**

Guadalupe Dam and reservoir are currently subject to operational restrictions of 66% of the full reservoir capacity, as agreed to by the Santa Clara Valley Water District (Valley Water) and the California Department of Water Resources, Division of Safety of Dams (DSOD), due to seismic stability concerns with the dam.

Valley Water is undertaking the Guadalupe Dam Seismic Retrofit Project (Project) to address seismic stability deficiencies, rehabilitate aging appurtenant facilities, and to comply with current dam safety standards. The full reservoir capacity will be restored upon completion of the Project.

Agreement A3941A with GEI Consultants, Inc. (Consultant) includes a scope of services to complete design documentation and prepare the construction plans, specifications, and cost estimates for the Project.

Amendment No. 2 to this Agreement will increase the not-to-exceed fee by \$1,474,569 for the Consultant to perform:

1. Additional project management services during an extended design term;
2. Additional geotechnical investigation necessary to address DSOD and other agency comments provided on the 60 percent design document review;
3. Replenish the available funds for Supplemental Services that were expended to perform

- investigations and design of the new spillway as mandated by DSOD; and
4. Additional design documentation including, but not limited to:
    - a. A more efficient outlet works discharge configuration as recommended by the value engineering analysis of the Project (the result of which is a potential savings of approximately \$1.1 million in construction cost);
    - b. A secondary construction access route; and
    - c. A full span bridge over Guadalupe Creek downstream of the dam to provide access to the dam during flood events and aid long-term maintenance of the facility.

Amendment No. 2 also extends the Agreement by approximately four years to provide more time for the review of the 90 percent and final design documentation by DSOD and other permitting agencies.

### ***Project Background and Previous Board Actions***

Guadalupe Dam, an earthen fill dam, was constructed in 1936. The reservoir has a capacity of 3,460 acre-feet, and stores watershed runoff. The impounded water is used for conservation, groundwater recharge, incidental flood protection, and, environmental flows. In August 2009, Valley Water retained URS Corporation to perform a Seismic Stability Study (Study) for Guadalupe and Calero Dams. The authors of the Study concluded that during a large magnitude earthquake, the downstream slopes of the Guadalupe Dam could become unstable. As a result, Valley Water and the DSOD agreed to restrict the water level in the reservoir until the seismic retrofit of the dam is completed. Currently, the dam is operated such that the maximum water level remains 18 feet or greater below the spillway crest, which reduces the reservoir's allowed storage to about 66 percent of total storage capacity. The reservoir restriction has been implemented as an interim risk reduction measure while the seismic retrofit project is being designed.

On August 27, 2013, the Board approved a consultant agreement with GEI Consultants Inc. to perform Planning Services for Calero and Guadalupe Dams Seismic Retrofits Project. The resulting Planning Study Report for the Guadalupe Dam retrofit was provided to the Board by a Non-Agenda Memorandum in December 2015.

On March 8, 2016, the Board approved a consultant agreement with GEI Consultants, Inc. to perform design services for the Guadalupe Dam Seismic Retrofit Project.

In 2017, following a major incident at Orville Dam that led to significant damage and erosion to its spillways, DSOD required Valley Water to undertake spillway condition assessments at nine Valley Water dams including at Guadalupe Dam. As a result of this assessment, the Guadalupe Dam spillway was found to be deficient, not up to current standards, and in need of replacement.

### ***Consultant Work Performed to Date***

The design services Agreement with GEI for the Guadalupe Dam Seismic Retrofit includes the following tasks:

Task 1 - Project Management

- Task 2 - Data Collection and Investigations
- Task 3 - Basis for Design
- Task 4 - 30 Percent Design Document Preparation
- Task 5 - 60 Percent Design Document Preparation
- Task 6 - 90 Percent Design Document Preparation
- Task 7 - Final Design Documentation Preparation
- Task 8 - Bid and Award Services
- Task 9 - Independent Technical Review Board (DELETED - NOT PERFORMED)
- Task 10 - Supplemental Services

Tasks 3-5 are complete. Most of the Task 2 scope is complete except for a few more borings and test pits to be performed in subtask 2.6 Additional Geotechnical Investigations. Work has also commenced on the scope of Task 6.

The budget for Task 10, Supplemental Services, has been mostly expended to fund additional necessary site investigations and the preparation of technical memoranda and development of designs for a new spillway as mandated by DSOD. The use of Supplemental Services was carefully scoped by staff and formalized in individual task orders. Expenditures for these task orders have been closely monitored and deliverables have been reviewed for timeliness and completeness.

### ***Staff Management of Consultant Agreements***

Staff has been monitoring and managing the Consultant's performance to meet the goals and terms of the Agreement. Bi-weekly progress meetings and monthly design meetings are held with the Consultant to assess progress of the Project. As generally required in all Valley Water consultant agreements, consultants are required to submit detailed monthly progress/status reports with their invoices. These reports are scrutinized by Valley Water staff before approval of any payment to the consultants.

Another requirement in the Valley Water's consultant agreement is the preparation and implementation of an internal Quality Assurance and Quality Control (QA/QC) Plan by the Consultant for all deliverables transmitted to Valley Water. As part of the deliverable acceptance process, Valley Water also performs QA/QC review of all deliverables received from the Consultant for compliance with project scope, budget, and schedule.

For this Agreement, key Consultant deliverables are subject to additional technical review by DSOD staff and independent experts.

### ***Agreement A3941A Amendment History***

Amendment No. 1 amended the list of authorized subconsultants to both remove and add firms, corrected typographical errors, and revised insurance requirements. That amendment had no monetary impact and was therefore administratively approved by the CEO on July 26, 2016.

An internal Administrative Agreement Status Change form was executed on September 5, 2018

modifying the Agreement budget as follows: Task 9 - Independent Technical Review Board with a fixed Not-to-Exceed fee of \$58,000 was deleted as it was not needed and its unutilized budget was transferred to Task 10 - Supplemental Services.

**Amendment No. 2 Additional Scope of Services and Time Extension**

To complete the design phase, Amendment No. 2 will allocate additional funds to Tasks 1, 2, 6, 7 and 10 to expand the scope of work to include additional project management services during an extended design term, additional geotechnical investigations, preparation of additional design documentation including, but not limited to, a new outlet works discharge configuration, a secondary construction access route, and a full span bridge over Guadalupe Creek downstream of the dam. It will also increase the fees for the Supplemental Services task as detailed below. Table 1 presents a comparison of the original and updated scope of work for the dam retrofit.

**Table 1 - Guadalupe Dam Seismic Retrofit Project  
Baseline Scope vs. Expanded Scope**

<b>Baseline Scope of Seismic Retrofit as Determined during Planning Phase</b>	<b>Expanded Scope of Seismic Retrofit as Determined during Design Phase</b>
1. Stabilize dam embankment to withstand maximum credible earthquake 2. New accessible sloping, multi-level intake structure close to the dam 3. New tunneled outlet pipe 4. New spillway crest structure 5. New access bridge across spillway from Hicks Road	1. Stabilize dam embankment to withstand maximum credible earthquake 2. New accessible, sloping, multi-level intake structure close to the dam 3. New tunneled outlet pipe 4. New spillway crest structure 5. New access bridge across spillway from Hicks Road 6. New spillway 7. New secondary construction access to the site 8. New full span bridge over Guadalupe Creek downstream of the dam

The total not-to-exceed fee for Amendment No. 2 is \$1,474,569. The tasks and not-to-exceed additional fees are summarized below:

1. Additional project management for extended design term Agreement (Task 1: \$315,949)
2. Additional geotechnical investigation and analysis for the detailed design at the right downstream groin / abutment area, borrow area, downstream bridge abutment location as well as for other miscellaneous elements. (Task 2: \$440,516).
3. Additional 90 percent design documentation for new outlet works discharge configuration, secondary construction access route, Hicks Road realignment soil nail supported retaining wall required to provide a stable slope arrangement, oxygenation system relocation, and, full span bridge over Guadalupe creek downstream of the dam. (Task 6: \$266,233).
4. Additional 100 percent design documentation for new outlet works discharge configuration, secondary construction access route, Hicks Road realignment soil nail supported retaining wall required to provide a stable slope arrangement, oxygenation system relocation, and, full span bridge over Guadalupe Creek downstream of the dam. (Task 7: \$51,871).
5. Supplemental Services to provide funds for unanticipated costs associated with site specific land surveys, constructability review and risk workshops, additional engineering surveys and

geotechnical investigations, flood mapping below toe of dam; investigation of scour and erosion of channel downstream of spillway, updating Seismic Hazards ground motions to current attenuation relationships, tree surveys and harvest/removal permits, design of additional facilities, construction sequencing or mitigation required by regulatory permits, and, design of improvements to Hicks/Pheasant Road staging area, replacement of upstream dam face concrete panels; additional workshops, meetings, and memoranda. (Task 10: \$400,000).

A summary of the tasks and fees for the proposed Amendment is presented in Table 2.

**Table 2 - Summary of Tasks and Fees for Amendment No. 2**

Task	Description	Original Total Fixed NTE* Fees	Administrative Amendment Effective 9/5/2018	Amendment No. 2 NTE Fees	Revised Total NTE Fees
1	Project Management	\$529,717	-	\$315,949	\$845,666
2	Data Collection and Investigations	\$1,215,256	-	\$440,516	\$1,655,772
3	Basis for Design	\$1,079,229	-	-	\$1,079,229
4	30 Percent Design Document Preparation	\$490,795	-	-	\$490,795
5	60 Percent Design Document Preparation	\$727,917	-	-	\$727,917
6	90 Percent Design Document Preparation	\$654,575	-	\$266,233	\$920,808
7	Final Design Document Preparation	\$375,454	-	\$51,871	\$427,325
8	Bid and Award Services	\$70,275	-	-	\$70,275
9	Independent Technical Review Board	\$58,000	(\$58,000)	-	-
10	Supplemental Services	\$700,000	\$58,000	\$400,000	\$1,158,000
<b>Total Not-to-Exceed Fees</b>		<b>\$5,901,218</b>	<b>\$0</b>	<b>\$1,474,569</b>	<b>\$7,375,787</b>

Notes:

\*Not-to-Exceed

Amendment No. 1 was a no-cost amendment and Task No. 9 was deleted.

This Amendment No. 2 Cost Breakdown table includes fees re-allocated from previously deleted Task 9, to current incomplete tasks.

Required DSOD review of design documentation, which began in February 2018, is currently expected to be completed in the Summer of 2019. DSOD has cited lack of resources and other priority commitments as the reasons for their delay in reviewing Valley Water documentation. The Revised Schedule of Completion included in Amendment No. 2, takes into account this extended period of time required for the State’s regulatory review.

The cumulative effect of expanded Project scope as well as the time required for regulatory reviews will extend the time to complete the design work by three to four years.

A substantial portion of the Project design is now expected to be completed by the end of 2020. Completion of the California Environmental Quality Act (CEQA) process is also anticipated by the end 2020, followed by an estimated 12-month timeframe to acquire the necessary permits to initiate construction. Additional design changes may be necessary to comply with permit conditions; thus, the design phase will likely extend to mid-2021. The construction of the dam retrofit is currently anticipated to begin by the end of calendar year 2022.

**FINANCIAL IMPACT:**

The current estimated cost in the FY 2020-2024 CIP, for planning, environmental documentation, design, and construction of the Guadalupe Dam Seismic Retrofit Project is approximately \$80 million. There are adequate funds in the Project's Board-adopted Fiscal Year 2018-2019 budget to encumber the planned expenditure for the Consultant's scope of work as recommended in this Amendment No. 2. This action will not increase the overall Project cost.

**CEQA:**

The recommended action does not constitute a project under CEQA because it does not have a potential for resulting in direct or reasonably foreseeable indirect physical change in the environment.

**ATTACHMENTS:**

Attachment 1: Amendment No. 2

**UNCLASSIFIED MANAGER:**

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